



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,620	09/05/2003	Andrew J.S. Hamilton	013743.0106PTUS	8008
24283	7590	09/14/2005	EXAMINER	
PATTON BOGGS 1660 LINCOLN ST SUITE 2050 DENVER, CO 80264			HAJNIK, DANIEL F	
			ART UNIT	PAPER NUMBER
			2671	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/656,620	Applicant(s) HAMILTON, ANDREW J.S.	
	Examiner Daniel F. Hajnik	Art Unit 2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The use of trademarks has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Some examples include: "Discovery Channel" (pg. 1 line 23), "OpenGL" (page 4, line 15), "Dell" (page 4, line 28), "Pentium" (page 4, line 29), "Nvidia" (page 4, line 29).

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

1. Claim 9 is rejected under 35 U.S.C. 112, 4th paragraph for failing to further limit the scope of the claim. Claim 9 claims either a wired or wireless connection and depends upon claim 6 a method, which includes the step of "generating electronic signals" and "directing said signals to a display". Claiming that these electronic signals can be wired or wireless describes all electronic signals and does not further limitation the scope of the invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2671

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metzenthén ("Appearance of distant objects to an observer in a charged-black-hole spacetime", 1990, herein referred to as "Metzenthén").

As per claim 1, Metzenthén teaches the claimed "a memory for storing information for generating a relativistically correct scene depicting a visual experience selected from the group consisting of: a view of a black hole from outside the black hole; a view from the inside of a black hole; a view as a black hole is being entered; a view as a black hole is being exited; and a view from a wormhole or white hole or other piece of spacetime that may be attached to a black hole" by stating "Relatively little detailed work has been published on the views as seen by an observer near a black hole" (pg. 1105, 1st paragraph under the section "1. INTRODUCTION"), and states "This raises the question of what an observer who travels through a wormhole would see. In turn this leads back to the question of what a traveler in various other spacetimes would see" (pg. 1105, 2nd paragraph under the section "1. INTRODUCTION"), and states "The prime purpose of this paper is to present such results" (pg. 1105, 3rd paragraph under the section "1. INTRODUCTION"). Further, it would have been obvious to one of ordinary skill in the art to use a memory to help implement the teachings.

Metzenthén teaches the claimed "a processor communicating with said memory for generating electronic signals representing said scene" and Metzenthén teaches the claimed "a display communicating with said processor for displaying said scene" by

Art Unit: 2671

stating "A series of computer-generated pictures are presented which show how constellations would appear in the observer's sky as the observer falls into the Reissner-Nordstrom 'black hole'" (pg. 1105, 4th paragraph under the section "1. INTRODUCTION"). Further, it would have been obvious to one of ordinary in the art to use a processor to help generate the computer pictures.

As per claim 5, the claimed product has limitations that follow those of the simulator in claim 1 in terms of functionality and are subject to the same reasons for rejection.

As per claim 6, the claimed method has limitations that follow those of the simulator in claim 1 in terms of functionality and are subject to the same reasons for rejection.

As per claim 2, Metzenth then the claimed "generating said view from a plurality of simulated positions and said simulator further includes an input device for changing said simulated position" by stating "The local coordinate system for this observer is obtained by recognizing that the local timelike coordinate direction is given by the observer's three-velocity, and then the other coordinate directions" (pg. 1109, middle paragraph in 2nd column). It would have been obvious to one of ordinary skill in the art at the time of invention to use an input device in a computer system to change these velocities or other coordinate directions in the local coordinate system which is based upon the users

Art Unit: 2671

position. In addition, Metzenthén states "Later sections will deal with two types of observer: a static observer, i.e., one who is at fixed, r , θ (and ϕ), and a free-falling observer" (1st paragraph under the section "IV. APPEARANCE OF 'DISTANCE OBJECTS'"). It would have been obvious to one of ordinary skill in the art to use an input device in the reference, which is implemented on a computer system, to select between these two stated observers (simulated positions).

As per claim 4, the rationale and reasons for rejection of claim 2 is incorporated herein. Metzenthén teaches the claimed "wherein said information includes information for calculating said view in different directions and said simulator further includes an input device for changing said direction of view" by stating "the observer's path has a turning point inside r " (last paragraph in 1st column on pg. 1109).

As per claim 7, Metzenthén teaches the claimed "wherein said directing comprises transferring said scene to a film and projecting said scene utilizing said film to create said display of said scene" by stating "A series of computer-generated pictures are presented which show how constellations would appear in the observer's sky as the observer falls into the Reissner-Nordstrom 'black hole'" (pg. 1105, 4th paragraph under the section "1. INTRODUCTION") and by showing a radially free-falling observer view in a plurality of frames over time in figure 8 (pg. 1119). Given teaching of successive computer generated frames of the reference, it would have been obvious to one of ordinary in the art to project these images onto a film as a more convenient method of

Art Unit: 2671

viewing the frames since a large amount of hardware is readily available and well suited for viewing films with moving frames over time.

As per claim 8, Metzenthén teaches the claimed “wherein said transferring comprises an animation process” for the same reasons and rationale stated in claim 7. Further, it would have been obvious one of ordinary skill in the art to animate computer-generated images because the image frames in figure 8 (pg. 1119) appear to have an animation like quality to their images, which would make it obvious to one of ordinary skill to illustrate the frames as animation.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metzenthén in view of Fukuda (US Pub 2002/0021298).

As per claim 3, Metzenthén teaches the claimed “wherein said information includes information for calculating said view with different fields of view and said simulator further includes an input device for changing said field of view”.

Metzenthén does not teach an actual input device to change said field of view. Fukuda teaches this limitation in figure 1 where an input device (a controller) changes a field of view as shown in figures 13A-13C and in figures 16A and 16B. It would have been obvious to one of ordinary skill in the art at the time of invention to combine Metzenthén and Fukuda. Fukuda teaches the advantage of changing a field of view by teaching that widening or narrowing the field of view makes it is easier to maneuver depending upon

Art Unit: 2671

the situation (paragraph [0010] and paragraph [0011]).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Please see form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 8/31/05

DFH


ULKA J. CHAUHAN
PRIMARY EXAMINER